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Ragner et al.(10) **Pub. No.: US 2003/0132884 A1**(43) **Pub. Date: Jul. 17, 2003**(54) **AUDIO EXTENSION FOR WIRELESS
COMMUNICATION DEVICES**(52) **U.S. Cl. 343/702**(76) **Inventors: Gary Dean Ragner, Gainesville, FL
(US); Jerry Allen Grant, Hemingway,
SC (US); Robert Timothy Shevlin,
Homosassa, FL (US)**(57) **ABSTRACT**

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This invention provides a novel repositioning of the audio output on a personal wireless communication device (30) to greatly reduce the radiation impinging on a user's head and brain. Inverting cover (240) reduces radiation levels experienced by a user's brain by moving the audio output from the location of speaker (39) to earpiece (236). Sound from speaker (39) is routed through connecting air channels (243), (246), (238), and finally to earpiece (236) for listening. Repositioning of the audio output may also be done actively, by using electronically driving a speaker in earpiece (236). Keypad (36), display (34), and microphone (38) are positioned above audio output earpiece (236) so that when the assembly (communication device (30) and inverting cover (240)) is inverted, the user can talk normally, with earpiece (236) placed in the user's ear and microphone (38) located near the user's mouth. By locating the earpiece several inches away from transmitting antenna (32) the user's head receives much less electromagnetic radiation than prior art wireless communication devices.

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